

What is claimed is:

1. An apparatus for producing cellulose paper pulps from biological masses, comprising:

a tower <sup>means</sup> for sterilizing the mass to form a culture medium;

a first screw <sup>means</sup> for mixing said sterilized mass with an inoculum and handling the same in a sterile environment to create an inoculated mass;

a first conditioning and reaction chamber having means for mixing and handling the inoculated mass in a sterile environment and controlled atmosphere of CO<sub>2</sub> and O<sub>2</sub>, with controlled temperature and pH;

a hydraulic pulper <sup>means</sup> for elementarization <sup>ing</sup> of the mass and its soaking up with suspensions of enzyme mixes;

a hammer mill for the elementarization of vegetative material, to break up knots of stems and to pulverise leaves, and to detach bast from wood;

a rotating tumbler <sup>means</sup> provided with reels and counter reels for separating various fractions;

a rotor compactor to reduce the volume of the vegetative mass and to remove a majority of any air contained in the same;

a second screw for mixing said compacted vegetative mass with extracts containing enzymes and with water for handling in a sterile environment;

a second conditioning and reaction chamber having means for mixing and handling of the vegetative mass mixed with the enzymes in a sterile environment and controlled atmosphere of CO<sub>2</sub> and O<sub>2</sub>, with controlled temperature and pH; and

*means* *said second screw and rotor* *with*  
apparatuses for cooking and bleaching cellulose pulps, as well as for the disposal of refluents.

2. Apparatus according to claim 1, wherein at least one of said first and second screws are provided with hollow coils, for internal circulation of thermostatic fluids, and also with sensors for various control instruments, as well as means for homogeneously distributing in at least one of said sterilized mass and said compacted vegetative mass suitable pH correctives and additives.

3. Apparatus according to claim 1, wherein said first and second conditioning and reaction chambers are provided with tilting axis screws translatable along a surface of the chamber by means of a bridge crane, and having an adjustable tilt angle rotation speed and transverse speed, so as to keep the reaction mass in constant movement and to control the reaction progress and speed as well as the permanence time of the reacting masses in said chamber.

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